

Pl 1162580

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# THE UNITED STATES OF AMERICA

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UNITED STATES DEPARTMENT OF COMMERCE  
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May 06, 2004

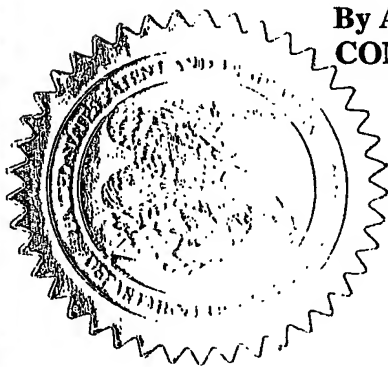
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APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A  
FILING DATE.

APPLICATION NUMBER: 60/495,655

FILING DATE: August 15, 2003

RELATED PCT APPLICATION NUMBER: PCT/US04/06568

By Authority of the  
COMMISSIONER OF PATENTS AND TRADEMARKS



M. SIAS  
Certifying Officer

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PTO/SB/18 (02-01)  
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## PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

Express Mail Label N . EL 995079250 US

### INVENTOR(S)

Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)
Carl	Christensen	South Jordan, Utah USA

☐ Additional Inventors are being named on the next separately numbered sheets attached hereto

TITLE OF THE INVENTION (280 characters max)

BROADCAST ROUTER OPTIMIZED FOR ASYMMETRICAL CONFIGURATION

### CORRESPONDENCE ADDRESS

Direct all correspondence to:

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☒ Firm or  
Individual Name

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Address

PATENT OPERATIONS.

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State

NJ

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Country

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### ENCLOSED APPLICATION PARTS (check all that apply)

☒ Specification Number of Pages

2

☐ CD(s), Number

☐ Drawing(s) Number of Sheets

☐ Other (specify)

☐ Application Data Sheet. See 37 CFR 1.76

### METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)

☐ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check or money order is enclosed to cover the filing fees

☒ The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number:

07-0832

FILING FEE  
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160

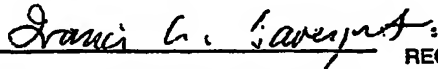
☐ Payment by credit card. Form PTO-2038 is attached.

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

☒ No.

☐ Yes, the name of the U.S. Government agency and the Government contract number are: \_\_\_\_\_

Respectfully submitted,  
SIGNATURE



Date

August 15, 2003

TYPED or PRINTED NAME

FRANCIS A. DAVENPORT

REGISTRATION NO.

36,316

(if appropriate)

Docket Number:

PU 0302446

TELEPHONE 609 734-6805

### USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C., 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C. 20231.

17613 U.S. PTO  
60/495655  
08/15/03

08/15/03

# FEE TRANSMITTAL for FY 2003

Patent fees are subject to annual revision.

Complete if Known

Application Number	N/A
Filing Date	HEREWITH
First Named Inventor	Carl Christensen
Examiner Name	N/A
Group / Art Unit	N/A
Attorney Docket No.	PU 030246

TOTAL AMOUNT OF PAYMENT (\$ 160

## METHOD OF PAYMENT (check one)

1. ☐ The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:

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07-0832

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Name

THOMSON multimedia Licensing Inc.

- ☒ Charge Any Additional Fee Required  
Under 37 CFR 1.16 and 1.17  
☐ Applicant claims small entity status.  
See 37 CFR 1.27

2. ☐ Payment Enclosed:

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## FEE CALCULATION

### 1. BASIC FILING FEE

Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid
101	740	201	370	Utility filing fee	
106	330	206	165	Design filing fee	
107	510	207	255	Plant filing fee	
108	740	208	370	Reissue filing fee	
114	160	214	80	Provisional filing fee	160
SUBTOTAL (1)					(\$ 160

### 2. EXTRA CLAIM FEES

Total Claims	<div></div>	-20 **	=	<div>0</div>	X	<div></div>	=	<div>0</div>
Independent Claims	<div></div>	-3 **	=	<div>0</div>	X	<div></div>	=	<div>0</div>
Multiple Dependent					X	<div></div>	=	<div>0</div>

Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description
103	18	203	9	Claims in excess of 20
102	84	202	42	Independent claims in excess of 3
104	280	204	140	Multiple dependent claim, if not paid
109	84	209	42	** Reissue Independent claims over original patent
110	18	210	9	** Reissue claims in excess of 20 and over original patent

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee or cover sheet	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	
116	400	216	200	Extension for reply within second month	
117	920	217	460	Extension for reply within third month	
118	1,440	218	720	Extension for reply within fourth month	
128	1,960	228	980	Extension for reply within fifth month	
119	320	219	160	Notice of Appeal	
120	320	220	160	Filing a brief in support of an appeal	
121	280	221	140	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1,280	241	640	Petition to revive - unintentional	
142	1,280	242	640	Utility issue fee (or reissue)	
143	460	243	230	Design issue fee	
144	620	244	310	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Processing fee under 37 CFR 1.17 (q)	
126	180	126	180	Submission of Information Disclosure Stmt	
581	40	581	40	Recording each patent assignment per property (times number of properties)	
148	740	246	370	Filing a submission after final rejection (37 CFR § 1.129(a))	
149	740	249	370	For each additional invention to be examined (37 CFR § 1.129(b))	
179	740	279	370	Request for Continued Examination (RCE)	
169	900	169	900	Request for expedited examination of a design application	
Other fee (specify) _____					
*Reduced by Basic Filing Fee Paid					
SUBTOTAL (3)					(\$ 0

## SUBMITTED BY

Complete (if applicable)

Name (Print/Type)	Francis A. Davenport	Registration No. Attorney/Agent)	38,316	Telephone	609-734-6805
Signature	<i>Francis A. Davenport</i>			Date	09/15/03

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### BROADCAST ROUTER OPTIMIZED FOR ASYMMETRICAL CONFIGURATION

In previous linearly expandable broadcast router architectures each chassis with both input and output cards and would usually be designed to support the same number of outputs and inputs per chassis. While the prior methods have the advantages of a single chassis being capable of providing a complete system, a new advantageous approach has offers configurations when the ratio of inputs to outputs varies significantly from a more usual one to one relationship. This approach also has advantages when constructing very large routers (routers greater than 1024 x 1024).

A novel architecture for a broadcast router. The architecture consists of input chassis and output chassis. Multiple input and output chassis are used allowing for a linear expansion of the router. Linearly expandable broadcast router architectures in the past have not handled extremely asymmetrical (many more inputs than outputs or vice versa) configurations well. Input chassis house input cards and an expansion card. Input cards receive and decode a number of incoming input streams. This data is routed to the expansion card. The expansion card takes all the data from all the input cards and transfers this information to all of the output chassis.

Each output chassis receives data from all of the input chassis and transfers that information into a large matrix. The matrix performs the routing function selecting when information is routed to each output card. The output cards in the output chassis take the data to recreate the associated input stream on the outputs of the router.

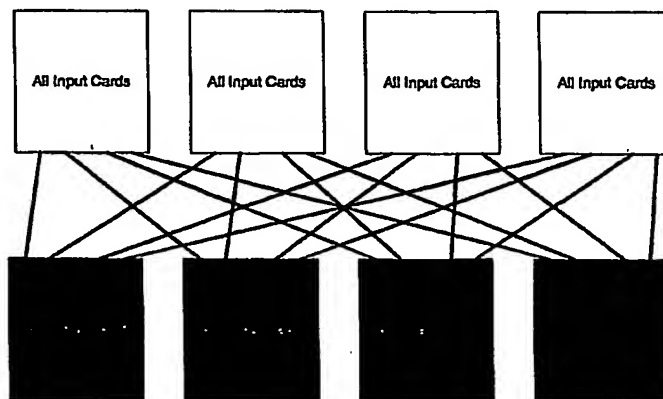


FIGURE 1 is an example of a system configured with the same number of inputs and outputs.

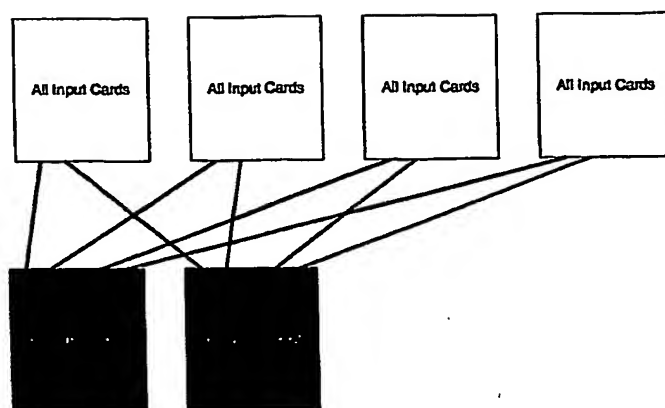


FIGURE 2 is an example of a system with many more inputs than outputs.

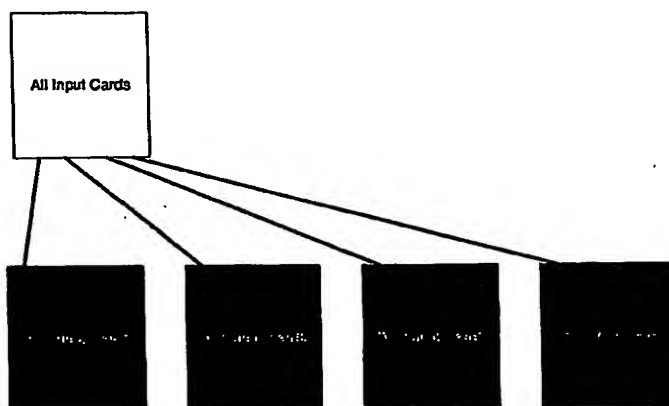


FIGURE 3 is an example of a system with many more outputs than inputs.